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New species of *Phialosporostilbe and Pleurothecium* from soil

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Abstract — Two new species of dematiaceous hyphomycetes from soil in China, *Phialosporostilbe yadongensis* and *Pleurothecium clavatum,* are described and illustrated. The type specimens (dried cultures) and living cultures are deposited in the Herbarium of Shandong Agricultural University Plant Pathology (HSAUP). Isotypes are kept in the Herbarium of the Institute of Microbiology, Academia Sinica (HMAS).

Key words — taxonomy, soil fungi

Introduction

Since Mercado & Mena (1985) erected *Phialosporostilbe* for *P. turbinata* Mercado & J. Mena, four species have been recognized worldwide. This genus has distinctive synnematal conidiomata; integrated, annellidic or monophialidic conidiogenous cells on the apical portion of the synnema; and conidia that are acrogenous, phialidic, catenate, cuneiform, or turbinate, colourless to pale brown, amerosporous, and smooth, and have short subapical appendages. *Pleurothecium* Höhn. was erected in 1919, and six species have been recognized worldwide. The conidia, which arise in a sympodial sequence on distinct denticles, are single, didymosporous, frequently fusiform, ellipsoidal or clavate, smooth, and pale brown to brown. During a recent survey of soil hyphomycetes in China, new species of *Phialosporostilbe* and *Pleurothecium* were found.

Taxonomic descriptions

Phialosporostilbe yadongensis Y.M. Wu & T.Y. Zhang, **sp. nov.** Figure 1

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Coloniae effusae, piliformes, albae ad griseo-brunneae. Conidiomata synnematica, erecta, 200–720 µm alt. ex conidiophoris parallelis, contiguis, septatis, brunneis, apice fertili divergentibus, composita. Synnemata semper unisetis, sterilia, atrobrunneis, laevia,

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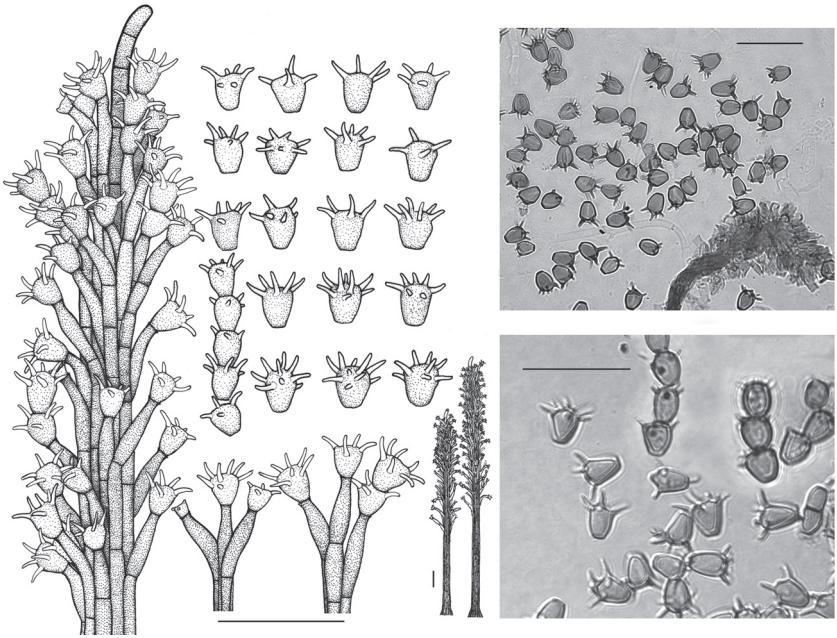

Fig. 1 Conidia, conidiogenous cells and synnemata of *Phialosporostilbe yadongensis* (ex holotype; bar = 25 μm); left: drawings; right: photomicrographs.

crassitunicatis, obtusis, 220–730 μm alta. Cellulae conidiogenae terminales, ex axibus synnematis, divergentes, pallide brunneae vel modice brunneae. Conidia phialidica, amerospora, catenata, usque ad 10 per catena, cuneiformia, non-septata, pallide brunnea, 6–8.5 μm longa, cum 4–10 appendiculatis, 4–7 μm longa.

Holotype: from a grassland soil of Yadong, Tibet, China, altitude 3400m. Sept. 11. 2007, Y.M. Wu, HSAUPII$_{07}$1114, holotype; HMAS 196250, isotype.

Etymology: The epithet refers to the type location.

Colonies on PDA 25°C effuse, hairy, grayish brown. Conidiomata synnematal, straight, 200-720 μm tall, 10-25 μm wide at base, 8-18 μm at the apex, composed of one dark brown, central seta and 10-20 parallel, thick-walled, septate, brown conidiophores diverging at their fertile apices, synnemata indeterminate incorporating 1 sterile seta, dark brown, smooth, thick-walled, blunt, 220-730 μm long, 6–9 μm wide. Conidiogenous cells terminal, integrated, monophialidic, pale brown to medium brown, cylindrical, 20–50 μm long, 3–5 μm wide at the tip, with an inconspicuous apical collarette. Conidia phialidic, amerosporous, catenate, up to 10 in a chain, cuneiform, with 4–10 radiating subapical appendages and a slightly truncate to rounded narrow base, non-septate, thick-walled, smooth, base truncate, pale brown, 6–8.5 μm long, 6–8 μm at the widest region, appendages 4–7 μm long.

This fungus somewhat resembles *Phialosporostilbe catenata* Sureshk. et al. (Sureshkumar et al. 2005) in conidial morphology. But the latter has larger (12.3–15.2 × 7.4–10 μm), colourless conidia, with only two appendages.

Pleurothecium clavatum Y.M. Wu & T.Y. Zhang, **sp. nov.** FIGURE 2

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Coloniae in PDA effusae. Mycelium partim superficiale et partim in substrato, ex hyphis ramosis septatis, subhyalinis vel pallide brunneae, 2–4 μm crassis composita. Conidiophora simplicia, cylindrica, 15–40 μm longa, 2–3 μm crassa, continua vel septata, flexuosa, laevigata, brunnea. Cellulae conidiogenae in conidiophoris connatae, sympodialae, polyblasticae vel monoblasticae, cylindricae, denticulatae. Conidia singularia, acropleurogena, clavata, pallide brunnea, laevigata, continua vel uniseptata, 15–32 μm longa, 3–4 μm crassa, basin clavatis protrudentibus dentes.

HOLOTYPE: from a mountain soil of Changzhi, Shanxi Province, China, altitude 1500m. Sept. 16. 2004, Y.M. Wu, HSAUPII$_{04}$1183, holotype; HMAS 196251, isotype.

ETYMOLOGY: The epithet refers to the clavate conidia of this species.

Colonies on PDA after two weeks at 25°C, effuse, growing very slowly reaching a diameter of 2–3 cm, centre slightly raised, velvety, olivaceous brown. Mycelium partly superficial, partly immersed. Hyphae pale to mid brown, smooth, septate, 2–4 μm thick. Conidiophores simple, straight or flexuous, pale to mid brown, septate, 15–40 μm long, 2–3 μm thick, sympodial, denticulate. Conidia solitary,

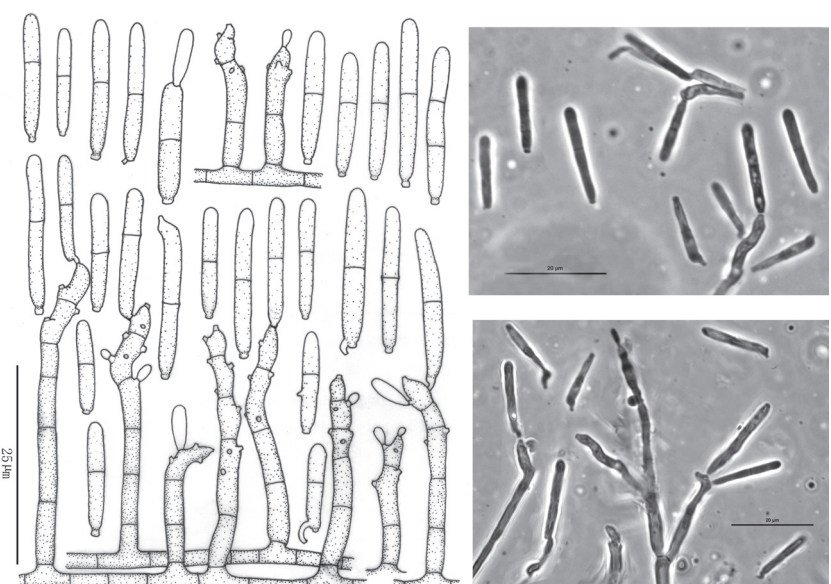

FIG.2 Conidia and conidiophores of *Pleurothecium clavatum* (ex holotype; bar = 25 μm); left: drawings; right: photomicrographs.

straight or slightly curved, mostly clavate, 1–2 (usually 1)-septate, pale brown, smooth, 15–32 × 3–4 μm, sometimes with a small protuberant peg at the base.

This fungus somewhat resembles *Pleurothecium malayaense* K. Matsush. & Matsush. (Matsushima 1996) in conidium morphology. But the conidia of the latter are shorter and narrower (14–21 × 1.5–2.0 μm) than those of *P. clavatum*.

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Literature cited

Matsushima T. 1996. Matsushima Mycological Memoirs No.9. 1–40 + plates.

Mercado Sierra A, Mena Portales J. 1985. Nuevo género de hifomicete fialídico de Cuba. Rev. Jardín Bot. Nac. Univ. Habana Cuba 6: 57–60.

Sureshkumar G, Sharath Babu K, Kunwar IK, Manoharachary C. 2005. Two new hyphomycetous fungal species from India. Mycotaxon 92: 279–283.